



Renewable Portfolio Standard (RPS)

Connecticut

Policy Description

Established in 1998 and subsequently revised several times, Connecticut's renewable portfolio standard (RPS) requires that each electric supply and wholesale distribution company obtain at least 48% of its retail load from renewable energy by January 1, 2030. Qualifying sites receive one renewable energy certificate (REC) for every megawatt-hour (MWh) of electricity they produce. RECs can be traded either "bundled" (selling directly to an electricity producer) or "unbundled" (selling the REC and the energy separately in regional wholesale markets).

Certain forms of combined heat and power (CHP)—such as fuel-cell-based CHP systems or CHP using a qualified renewable fuel source—qualify under the Class I REC criteria. Electricity generated from renewable-based CHP, including fuel-cell-based CHP systems, earns greater benefits than electricity derived from conventional natural-gas-fueled CHP systems. As a Class I resource, renewable-based CHP receives a higher REC price, can secure long-term fixed-price contracts, and benefits from a portfolio obligation percentage that rises to 40% by 2030.

Natural-gas-fueled CHP systems are a Class III resource and can be eligible for Class III RECs if they meet a set of qualifying conditions. Eligibility requires that CHP systems have an operating efficiency of at least 50%, where at least 20% of the energy output is electricity and at least 20% of the energy output is useful thermal energy. Qualifying systems must have been installed on or after January 1, 2006. Participation in the RPS program requires a monitoring and verification plan. Electric providers that fail to comply with the RPS during an annual period must pay \$0.055 per kWh (\$55 per MWh) to the Connecticut Public Utilities Regulatory Authority (PURA).

Policy Development

Year	Class I	Class I or II	Class III	Total
2020	21.00%	4.00%	4.00%	29.00%
2021	22.50%	4.00%	4.00%	30.50%
2022	24%	4.00%	4.00%	32%
2023	26%	4.00%	4.00%	34%
2024	28%	4.00%	4.00%	36%
2025	30%	4.00%	4.00%	38%
2026	32%	4.00%	4.00%	40%
2027	34%	4.00%	4.00%	42%
2028	36%	4.00%	4.00%	44%
2029	38%	4.00%	4.00%	46%
2030	40%	4.00%	4.00%	48%

Percentage required from each class, year by year

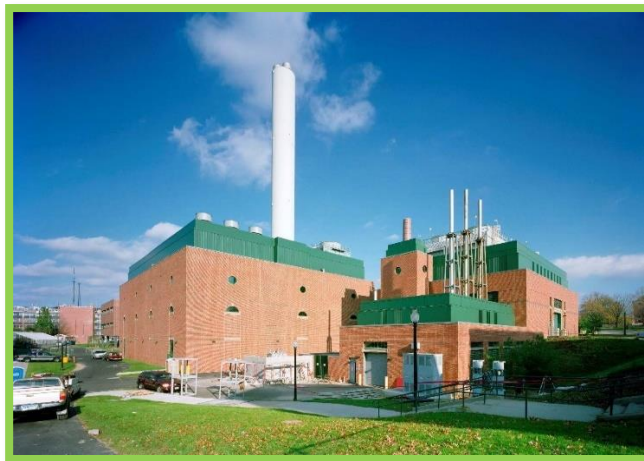
SOURCE: CONNECTICUT PURA

Minimum annual renewable energy percentages for 2020 are 21% for Class I resources and 4% for Class III resources. An additional 4% can be satisfied with either a Class I or Class II resource. The Class III percentage obligation remains constant from 2019 through 2030 at 4%. The Class I obligations rise from 21% to 40%, increasing initially in increments of 1.5% annually (2020–2022) and then of 2% annually (2023–2030).

In 2018, Connecticut updated the statute to direct electric distribution companies to conduct electricity and REC procurements from CHP located in certain distressed municipalities, based on the Connecticut Comprehensive Energy Strategy evaluation of district heating and thermal loops in high-density areas. This provision was directed to distressed municipalities with populations of over 127,000 and CHP systems of no more than 10 MW that are compatible for use with a district heating system owned by a thermal energy transportation company.¹

Policy Outcomes

The University of Connecticut's CHP system began operation on March 15, 2006. This system uses natural gas to produce electricity and steam for both heating and evaporative cooling applications. The CHP facility meets the campus' total energy requirements of 24.9 MWh of electricity, 600,000 pounds/hour of steam, and 10,300 tons/hour of chilled water. The technology is certified as a Class III REC under the RPS, and the facility is subject to quarterly inspections to ensure it is working within the efficiency and utilization requirements of an eligible Class III system. CHP significantly lowers the university's energy costs and will continue to do so over the entire 40-year expected design life of the plant, with estimated cumulative energy cost savings of nearly \$180 million. This system produces as much electricity as approximately 20,000 households consume annually. Also, the system reduces annual greenhouse gas emissions by an estimated 30,000 tons that would otherwise be emitted into the atmosphere from fossil fuel power plants serving the regional electric grid.



University of Connecticut cogeneration facility

SOURCE: CT ENERGY & TECHNOLOGY

Additional Policy Examples from the Region

In 1997, Massachusetts updated its electric utility statutes leading to the creation of the state's own RPS. The Massachusetts RPS differs from the Connecticut RPS in that Massachusetts allows only Class I and II renewables to collect RECs. Natural-gas-powered CHP systems in Massachusetts are not eligible for RECs.

Lessons To Share

Whether an energy efficiency program is grant-funded or independently funded may affect the number of RECs end users are allowed to retain. For example, there were two conditions under which the University of Connecticut could have received 100% of its Class III RECs: (1) file for a grant prior to March 9, 2007, or (2) be an independently funded energy efficiency project.

The university argued that it was an independently funded energy efficiency project installed between January 1, 2006, and March 8, 2007. Although the project finished installation in the respective timeframe, the university would later learn that the CHP system did not qualify as an energy efficiency project. This decision disallowed the university the allocation of 100% of the RECs due based on megawatt-hours produced.

Another section of the RPS states that "for nonresidential projects not receiving conservation and load management funding submitted on or after March 9, 2007, 75% of the financial value derived from the credits earned pursuant to this section shall be directed to the customer who implements energy conservation or customer-side distribution resources." The University of Connecticut reapplied and now receives 75% of its Class III RECs.

For More Information

U.S. DOE NEW ENGLAND CHP TECHNICAL ASSISTANCE PARTNERSHIP (CHP TAP)

David Dvorak, Ph.D., P.E.

(207) 581-2338

dvorak@maine.edu

More CHP Project Profiles:

www.nechptap.org

Date produced: November 2019

¹ CT Gen Stat § 16-258e (2018)